LIEUT. WILKES VINDICATED AFTER SEVENTY YEARS

Antarctic Continent, Discovered by American Explorer but Long Denied by British Geographers, Proved to Exist—Results of a Remarkable Voyage of the Last Century Are Corroborated This Year by an Australasian Expedition

MORE than one explorer has had the experience of doing good and faithful work, risking his life to get at the truth and then going home to find that the world does not believe in his discoveries. Paul du Chaillu said a few years before his death:

"I thank God I have lived to see the day when the world knows that what I said about the gorilla and the dwarf is true."

It was many years, however, before this justice was done him and because people did not believe there were dwarfs and gorillas in Africa they discredited much of the other work of this explorer.

About the time that Lieut. Wilkes was sailing along the Antarctic coast a missionary named Rebmann tramped to inner Africa from the Indian Ocean and discovered almost under the equator the highest mountain on the continent, Kilimanjaro, wearing an eternal snow cap. English geographers did not believe in the existence of snow mountains under the equator and declared that Rebmann must have drawn upon his imagination, and he died before justice was done him.

These are two instances of explorers who have suffered injustice. Perhaps the most conspicuous case of the kind is that of Lieut. Charles Wilkes, the American naval officer who seventy-two years ago sailed for 1,300 miles along the coast of Antartica and skirted shores that in their windings are estimated to be 1,750 miles long.

Wilkes believed he had found a continent. His discovery was doubted or denied by geographers. On his chart he extended along this coast the name "The Antarctic Continent," and later his countrymen gave to the shore line he revealed the name of Wilkes Land. This coast was not visited again till January and February of this year, when it was proved that Wilkes had told the truth. He discovered seventy-two years ago the longest stretch of the coast line of the Antarctic Continent known to this day. He had the insight to recognize that the land he saw was a continental coast. He named it so, and the name will stand.

Wilkes, his memory and his work have been covered with contumely by many supposed geographical authorities, chiefly in Great Brit ain. His explorations have been brushed aside in England as not worthy of credence. On many British maps and charts the work he did has not been recorded. Capt. J. C. Ross, who discovered Victoria Land and the volcanic mountains Erebus and Terror, omitted all of Wilkes's discoveries from his chart, though the Antarctic routes of every British sealer appeared on it. Ross's attitude was really based upon his unjust charge that Wilkes had intruded upon the British field of work, though in fact neither the American nor the Englishman saw a bit of the coast that the other explored; but Ross declared in so many words that Wilkes's work was apocryphal.

Sir Clements Markham, former president of the Royal Geographical Society, has perhaps been the most persistent British opponent of any tendency to give Wilkes the slightest credit. Ross did not see the Antarctic coast till after Wilkes had charted the long shore line he discovered and printed on his map the name "The Antarctic Continent"; but Markham did not hesitate to write in 1896 that James Clark Ross "made one of the greatest discoveries of modern times, amid region of perpetual ice, including a southern continent."

In the paper that Markham read before the geographical congress at Berlin in 1899 on "The Antarctic Expeditions" he did not mention Wilkes, but he took the liberty of naming the region that Wilkes had discovered "The Victoria Quadrant." The chart of "The Antarctic Manual" prepared for the first Scott expedition in 1901 omitted all mention of Wilkes's discoveries excepting Knox Land. Nine years ago the most conspicuous English globe was published without any indication of Wilkes's work, and Capt. Scott reporting on his first expedition in 1905 declared that he had sailed over Wilkes Land and added:

"Thus once and for all we have definitely disposed of Wilkes Land."

These are only a few examples of the injustice done to Wilkes for two generations. It is pleasanter to turn to the magnificent work he did and the complete verification of it which the Australasian Antarctic expedition has just supplied.

It should be said, however, that Dr. Bruce, leader of the Scottish Antarctic expedition, and Sir John Murray of the Challenger expedition have long been firm believers in the accuracy and the great value of Wilkes's achievement. The Continental geographers, though at first inclined to be doubtful, have on the whole given full credence to Wilkes's work. Among his advocates in this country Major-Gen. Greely and E. S. Balch, now the leading American writer on the Antarctic, have been most prominent.

But the studied and voluminous detraction of Great Britain hurt Wilkes at home. It is said not keen for this Wilkes would probably not have been tried by a court martial on various charges, including one of ill treating his officers on this expedition. The result was acquittal. He rose to high rank in the navy, did good service for the North in the civil war, two years later became a Rear Admiral and died at the age of 80 in 1877.

It was thirty-five years after he died that proof came at last that Wilkes had told the truth. His only important mistake was that the coast line he chartered is a little further south than he supposed it to be.

Late in the '30s of the last century the whaleries of the Southern seas and trade with China were a very substantial part of American business enterprises. Danger still lurked in these wide spread waters because they were not well charted. There were shoals that menaced ships, new islands were now and then accidentally discovered and lands were reported whose existence was in doubt. Very little study had been made of the natives of the South Pacific. Here was an opportunity to combine the promotion of business with the enlargement of geographical knowledge and Congress decided to improve it. Lieut. Wilkes, then 40 years old, was chosen to lead the expedition. He was known as an able navigator and a good executive officer, but he accepted the great responsibility with diffidence, for many officers superior in rank had been passed over in his selection.

At the present day one or two well equipped vessels would be sent out on such a mission, but at that time a squadron was considered necessary and Wilkes was really overburdened by having six Government vessels thrust upon him—the sloops of war Vincennes and Peacock, the brig Porpoise, the storeship Relief and the pilot boats Sea Gull and Flying Fish. The Sea Gull, in the course of the hazardous journey, was lost at sea with the fifteen men on board.

All told 583 men took part in the expedition, of whom eighty-three were officers and twelve were members of the scientific staff or artists. In the course of the three years' cruise 127 of the sailors deserted, showing that the service, ranging from hot lands to arctic cold, was anything but popular.

A member of the scientific staff who later achieved great distinction was Prof. J. D. Dana of Yale. None of the scientific men was taken on the journey to the Antarctic continent but all were left at the various duties assigned them among the Pacific Islands. Very detailed instructions were given to Wilkes and he faithfully carried out every phase of the great task.

He sailed on August 18, 1838, and on June 10, 1842, his stormswept vessels were home again, having circumnavigates the world. It was one of the great exploring expeditions. The entire report on the work have never been published but the nineteen large volumes issued by the Government include all of the Antarctic work which was by far the most distinctive feature of the expedition, though only a small part of the total results.

The Government instructed Wilkes to reach if possible a high latitude to the south of South America, but enjoined him not to pass the winter there. The polar cruises in fact were to be short summer journeys and no preparation was made for penetrating the pack ice or wintering in a high latitute.

Wilkes sailed south from Tierra del Fuego and fixed the position of the northeast extremity of Palmer Land, named after Capt. N. B. Palmer, the American sealer, who discovered it in 1821. This northern projection of the Antarctic Continent is now widely known as West Antarctica, but on many maps, as on that reproduced here, it is called Graham Land. The British, without a particle of excuse, undertook to suppress the name Palmer Land which Bellingshausen, the Russian explorer, gave to this new discovery and which appeared on English as well as American and French charts. They renamed it Graham Land in honor of the First Lord of the Admiralty.

About the same time two other of Wilkes's vessels sailed from Tierra del Fuego and penetrated as far south as 70 degress south latitude, when ice prevented further progress. Until this impediment appeared it seemed certain that the party would soon pass Capt. James Cook's furthest south, the nearest approach to the south pole made up to that time. All this was good work, but it has almost been forgotten in the greater fame of Wilkes's coming discovery, which he recognized as the revelation of a part of the shores of a continent.

Ten months later the expedition sailed into Sydney harbor, Australia, and began to prepare for a second Antarctic expedition. Wilkes's instructions said: "From Sydney you will make a second attempt to penetrate within the Antarctic region south of Van Diemen's Land [now Tasmania] and as far west as longitude 45 degrees east, or to Enderby's Land."

It was on this cruise that Wilkes made his great discovery of the Antractic continent. The undertaking was full of peril. In these days, when polar exploration has been reduced to a science, when steam navigation is the powerful ally of the explorer and every contingency is fully provided for, such a dash as Wilkes's into the unknown would be regarded as the height of folly.

Not a soul in the party had ever had any experience in polar navigation excepting the little gained in the two dashes from Tierra del Fuego. No adequate clothing had been supplied. The entire stock was found to be unfitted in every respect for the rigors of the polar climate. Sails were the only means of propulsion in waters often crowded with pack ice and thickly studded with icebergs.

The ships were in no way adapted for their work. They could not be kept dry between decks because they were pierced with large ports for guns. The bulwarks were so rotten as to cause great anxiety. The ship's boats were filled with bread because there were not bags enough to contain a full supply nor a proper place in which to stow it. The expedition had no anti-scorbutics.

Wilkes's ships were only ordinary cruising vessels, but they were the boats assigned to him. He had been ordered to go into the unknown Antarctic, and go he would. He read at Sydney of the equipment, first rate for those times, of the Terror and the Erebus, which were soon to carry Capt. James Ross to the scene of his great Antarctic discoveries. The comparison was cruel, but Wilkes would obey orders at any cost. In those days the bows of exploring vessels were not reenforced for battling with the ice. The ships of Dumont D'Urville, the French explorer, were equipped with brass shields which slipped on over the bows, but they came off at the first contact with a heavy ice floe.

On January 16, 1840, Wilkes sighted the first land and named it Ringgold's Knoll. He was always painstaking, always striving for accuracy. His first mention of new land denoted the character of his entire record.

"The indications of land," he wrote, "were received with doubt and hesitancy. I did not venture to record in my private journal the certainty of land until three days after those acquainted with the appearance of land in high latitudes were assured of the fact."

But the land was there, its peaks and promontories were mapped and sketches were made of the slope rising rapidly toward the interior, of the wall of barrier ice in front and the pack ice that prevented a near approach to the shore.

So Wilkes moved westward along the coast. For thirty-eight days he cruised on amid exciting experiences, but often encouraged by the sight of new coasts. Long before the end of the voyage the ice barrier and the mountains became so familiar that the later entries in the log book referred to the continental edge only as "the land." The course was laid as near the ice barrier as possible and the ships dodged in and out among the bergs, some of which rose to 250 feet above the sea.

The commander named Cape Hudson after one of his officers, and a deep and broad indentation where the ice kept the Vincennes from approaching the land was called Disappointment Bay. In Peacock Bay the Peacock was so badly injured by collision with an iceberg that she had to leave the polar seas and make for Sydney. Wilkes saw and named Points Emmons, Case and Alden and then approached the dark cliffs of Adelie Land and a little later Clairie Land.

Wilkes did not know it, but these two stretches of the coast had been discovered just before his arrival by D'Urville. These bits of coast and the shores of Sabrina Land are the only places on this long shore line of which Wilkes was not the original discoverer, and yet Sir Clements Markham wrote in the leading encyclopædia of his country: "Commander Wilkes of the United States expedition made a cruise to the southward and mapped a large tract of land in the neighborhood of the Anarctic Circle, for which he claimed the discovery. But as a portion of it had already been seen by Balleny (this sailor saw only Sabrina Land) and the rest has since been proved not to exist the claim has not been admitted."

Beyond Cape Carr Wilkes was driven out to sea by icebergs and did not regain sight of land until he reached North Land. Totten Land is the name he gave to Balleny's Sabrina Land. A high snow covered mountain ch in was named Budd Land.

All along the route Wilkes saw imbedded in the icebergs many boulders and smaller rocks and stones. He knew that they came from the land, and their prevalence everywhere in these ice strewn seas confirmed him in the belief that they originated on a land of very great extent. He had made only a third of the journey when he decided to place the name "The Anarctic Continent" on his chart.

The pack ice kept him from landing anywhere, an impediment that the steam polar ships of to-day are often able to overcome. At Knox Land he was only twelve miles from the coast, and the next day, when about eight miles from the shore, Wilkes estimated that ninety miles of the coast was visible and that its elevation was about 2,800 feet. He spoke of Termination Land, as he called the point where he left Antarctic waters, as "an appearance of land." It is a reality, and a part of the Mawson expedition is now in camp there. Wilkes saw a succession of coast lands equalling the distance between New York and the Mississippi River, and now this long coast is being studied by one of the best and most scientific of polar expeditions.

Dr. D. Mawson, the leader of the Australasian expedition, is a well known Australian geologist and in other respects a highly trained scientific man. He was in charge of the magnetic work in Shackleton's expedition. His scientific staff is made up of a number of the best specialists in the Australian and New Zealand universities.

Last fall he started on the polar exploring ship Aurora, not a south pole hunt but to make a scientific investigation of the coast of Wilkes Land. Over $200,000 was raised for his expedition. He intended to make three camps along the 1,300 miles of shores skirted by the Wilkes expedition, but succeeded in planting only two.

He planned that his own camp should be pitched at the eastern end of the series of Wilkes's discoveries but it was necessary to place it a little further west on Adélie Land. His other camp, in charge of Mr. Wild, is on Termination Land at the extreme western limit of Wilkes's discoveries. The Aurora has steamed along the entire waterway that Wilkes's vessels traversed.

Wilkes was much impeded by storms, fog and ice and so was Wild when he steamed westward along the coast this year. Wilkes was sometimes driven as much as sixty miles from the coast and it was at that distance that he discovered his "appearance of land" which he called Termination Land and which the charts have always marked with an interrogation point.

Wild has not seen all that coast either, but his party has seen and identified most of the lands discovered and named by Wilkes and it has also seen parts of the coast which Wilkes did not discover. The explorers on the Aurora have, in fact, observed so much of the continental nature of that coast line that the hypothesis that Wilkes might have discovered only the outer edges of a chain of islands falls to the ground.

The great thing that Mawson and Wild have done is to substantiate the work of Wilkes, and this is more important in a geographical sense than the discovery of the south pole. In the words of Dr. Bruce, the leading British authority on south polar topics:

"The Mawson Australasian expedition has proved, over a distance of more or less 1,200 miles, the existence of Wilkes Land, which has been disputed during the past seventy-two years, and has set up stations at the west and almost at the east end of it. Dr. Mawson has thus done much to suport the theory of there being one continental land mass round about the south pole."

Wilkes found that coast line and mapped it, but he made one mistake, as Mawson has discovered. Nearly all of his coast line is shown on his chart a little further north than it ought to be. His general position throughout his survey was a little nearer the south pole than he thought it was.

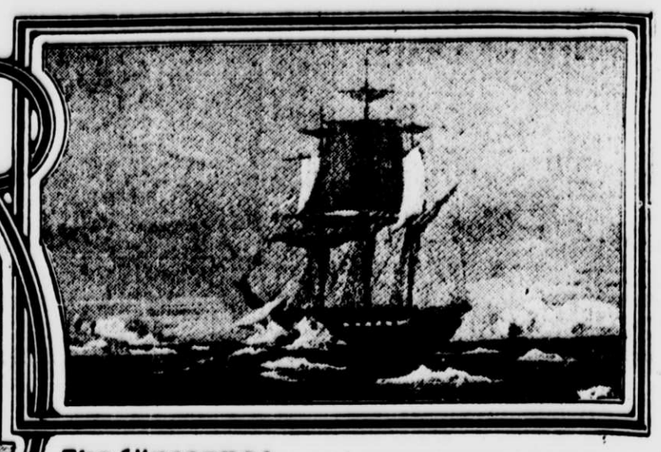
The blunder was a very natural one and the best men of Wilkes's time would have been likely to make it. Wilkes's scientific instruments for determining position were not so accurate as those made now, and furthermore it is difficult to-day to get accurate longitudes and even latitudes in polar regions during the continuous daylight, when stellar observations cannot be made and it is often impossible to get solar observations.

This explains some of the misinterpretation of Wilkes's work that prolonged the life of the attacks upon him; and explorers who have criticised Wilkes may have been in greater error than he was, because very likely their own vessels were not in the position assigned to them. Thus Scott was said to have "sailed over Wilkes Land," when in fact he had not reached it; and the Challenger expedition thought it was within fifteen miles of Termination Land, but couldn't see it; and the Gauss "sailed over Termination Land" and therefore Drygalski declined to put it on his chart, though it is the home of explorers in this present Antarctic winter.

The verification of Wilkes's work gives still greater importance to discoveries that Scott and Shackleton have recently made. A gap in the Antarctic coast line was still unfilled between the northwest end of Victoria Land and the eastern point of Wilkes Land. Shackleton sighted land to the west of Cape North, and the Terra Nova of the present Scott expedition on February 22 last discovered a mountainous land in 69 degrees 50 minutes south latitude, 163 degrees 20 minutes east longitude. This land was seen again on February 25 and followed to 68 degrees 30 minutes south latitude, 158 degrees 15 minutes east longitude.

These discoveries by Shackleton and Scott are in an almost direct line between Cape North and Cape Hudson, sighted by Wilkes in 1840. The British discoveries unite the Victoria Land of Ross with Wilkes Land. With the extended surveys of the coast of Victoria Land by the first Scott expedition and by Shackleton and with the later additions which Amundsen has been able to make geographers now know the general contour of a practically continuous stretch of the coast of the Antarctic continent nearly 2,000 miles in length.

Charles Wilkes



The Vincennes in Disappointment Bay. (after Wilkes).

South Polar Chart, showing Wilkes Land.

Cape Hudson, as seen from U.S.S. Peacock on January 19, 1840 (after Wilkes)

Adélie Land, as seen from U.S.S. Vincennes on February 1, 1840 (after Wilkes).

PROF. L. K. HIRSHBERG TELLS THE CAUSE OF TRACHOMA

Trachoma, that horrible ailment of the European immigrant, which because of its contagious nature the Federal Government has tried in vain by Congressional legislation and medical inspection laws to exlude from American ports, is an infectious disease of the eyes, apparent to the man on the street as a granular variety of "pinkeye." The cause of trachoma has been sought ever since Pasteur and Koch, Lister and Von Behring stalked the deadly microbe to its lair. These thirty years ceaselessly, ever hopefully, bacteriologists the world over have left no tissue or germ unturned in their assiduous investigation into the possible causes of this vicious variety of pinkeye.

Therefore it is with no little pride that the American public learns that a corps of scientists under the leadership of Dr. William H. Park of the New York city Health Department have given us the first beams of light from this dark land of eye ailments.

The ten medical investigators in the New York Health Department laboratories have just promulagted the results of their bacterial investigation. So painstaking, conservative and careful have these workers been that only after spending a whole year over this bit of research did they feel qualified to speak.

Two hundred and thirteen foreign immigrants and natives with trachoma were studied by the New York physicians. The details and history of the life of each one of these patients were carefully examined and recorded. Then the diseased eyelids were scraped. A tiny rake with microscopic teeth was used by the medical men for this purpose.

The scrapin s from the eyelids were t en discreetly collected, rubbed up with a mortar and pestle in some sterilized water, transferred to boiled beef blo d tea and gelatine and placed in an incubator for several days. The result was startling but most satisfactory. A new cluster of bacilli was found to have developed in the incubated beef blood.

These microbes were stained pink with an aniline dye and were thus easily viewed under the microscope. They presented themselves as granular masses like others found inside the epithelial cells of the eyes.

This discovery, showing so many similar germs in such a large percentage of natives as well as immigrants, shows that the same bacterium causes trachoma both here and abroad. These investigated New York cases make up the greatest number of accurately studied instances of trachoma so far recorded.

The New York doctors directed by Dr. Park are already at work brewing a vaccine composed of the scotched, cooked and killed trachoma germs with which to vaccinate all incoming sufferers with this eye trouble.

It is merely a matter of a brief period now when this chronic and blinding variety of granular pinkeye will be brought within the bounds of cure. The doctors have dominion over diphtheria, tuberculosis, typhoid and smallpox, much more malicious maladies. It is then a question of weeks when, thanks to Dr. William H. Park and his assistants, trachoma will have been transferred into the region of curable diseases.